



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/927,601	08/10/2001	Jani Ekman	930.336USW1	8153

32294 7590 07/14/2005

SQUIRE, SANDERS & DEMPSEY L.L.P.  
14TH FLOOR  
8000 TOWERS CRESCENT  
TYSONS CORNER, VA 22182

EXAMINER
----------

CHOW, CHARLES CHIANG

ART UNIT	PAPER NUMBER
----------	--------------

2685

DATE MAILED: 07/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/927,601	<b>Applicant(s)</b> EKMAN ET AL.	
	<b>Examiner</b> Charles Chow	<b>Art Unit</b> 2685	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 April 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____  |

Art Unit: 2685

**Detailed Action**  
(for response received on 4/05/2005)

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

- 1 Claim 16 is rejected under 35 U.S.C. 102(e) as being anticipated by Vaara (US 6,400,951 B1).

Regarding **claim 16**, Vaara teaches a gatekeeper [ base station controller BSC unit, as the gatekeeper, col. 6, lines 64] for a cellular communication network [ wireless GSM system, col. 7, lines 17-26, Fig. 1-4, Fig. 15], means for receiving a packet [ the receive packet at BSC during communication link in the GSM network, in col. 1, line 64 to col. 3, line 36, having inherently the 20ms packet frames in the time slots ], comprising a candidate list of alternative cells to which a call could possibly be transferred and means for generating a packet for sending a handover request for handing over a call to one of the alternative cells indicated in the received packet comprising a candidate list of alternative cells to which the call could possibly be transferred [ the BSC1-gatekeeper, in col. 4, lines 30-32, transmits handover request to MSC in col. 4, lines 37-44; During the call handoff, the MSC, as the claimed controller, to transmit the mobile priority cell list MPCL candidates to base station controller BSC-unit, as the claimed gatekeeper (col. 6, line 57 to col. 7, line 25; col. 12, lines 47-50), the BSC-unit-gatekeeper selects a cell for handing off a call in col. 9, line to col. 10, line 6; the BSC-unit-gatekeeper selects target cell for handover].

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 8-10, 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sayers et al. (US 6,539,237 B1) in view of Vaara (US 6,400,951 B1).

Regarding **claim 1**, Sayers et al. (Sayers) teaches a cellular communication network [ a wireless GSM system having integrated public and private network, col. 7, lines 17-26, Fig. 1-4, Fig. 15], comprising plurality of gateways [ gateway 42-1 to 42-G, in Fig. 2, Fig. 4; and in col. 9, lines 42-45] for controlling cells in the cellular communications network [ the controlling of cells in networks PSTN 26, ISDN 28, PBX 43, LAN in Fig. 2, Fig. 4; the cells 11, 11', 11'-1, 11'-2 in Fig. 1], the gateways being arranged to receive RF information from at least one mobile station in the network, at least one gatekeeper connected to gateway by a switched packet communication path [ the mobile station 4 in private network can communicate with public network 8, via gateways 42, through RF of the base transceiver station PBTS 27-11 27-p, hub 23, router 33, Fig. 2; col. 10, lines 19-24; and the gateways 42 provides the line interface and transcoding functions to PSTN, ISDN, PBX, Fig. 4, col. 11, lines 37-43], wherein each gateway includes means for generating a handover required indication for a call in which the gateway is engaged and including control information [ the gateway receives non-standard message for handover, and gateway converts the non-standard message into appropriate handover message for public network in col. 23, lines 62-67; the means for forwarding a generated handover message from the packet network interface as a nonstandard packet network message indicating a handover request, col. 27,

lines 62-67; the handover in the wireless packet IP call for public GSM and private networks, abstract; the intra-private network handover, inter-private network handover, the handover between private and public network in col. 23, lines 6-16], and packet generating means for generating a packet control information comprising a candidate identity and address of alternative cell to which the call could possibly be transferred [ the call control message from serving P-BTS to target P-BTS, having handover information indicating P-BTS identifier and called party number, for possibly call transfer in col. 27, lines 50-61; using BTS ID for handover in col. 23, lines 43-50; the candidate calculation performed at P-BTS in col. 23, lines 18-42, the gatekeeper function is performed by P-BTS for the call transferring in col. 16-18; the P-BTS gatekeeper passing a handover request to packet data interface, and generating handover location request, col. 27, lines 50-67]. Sayers fails to teach the packet addressed to said gatekeeper and including a candidate list of alternative cells to which the call could possibly be transferred and wherein the gatekeeper includes selection means for selecting one of said alternative cells in candidate list. However, Vaara teaches these features [ the handover call set up for mobile station ( Fig. 1, Fig. 3, abstract, col. 1, lines 9-31; col. 5, lines 30-41), the controller MSC is connected to the base stations BSS1, BSS2 (Fig. 3). During the call handoff, the MSC, as the claimed controller, to transmit the mobile priority cell list MPCL candidates to base station controller BSC-unit, as the claimed gatekeeper (col. 6, line 57 to col. 7, line 25; col. 12, lines 47-50), the MSC transmits MPCL to BSC-unit-gatekeeper and BSC-unit-gatekeeper selects a cell for handing off a call in col. 9, line to col. 10, line 6; the BSC-unit-gatekeeper selects target cell for handover; the transmitted packet messages in the GSM system in col. 1, line 64 to col. 3, line 36, having the 20ms packet frames in the time slots ], based on the measurement result reported from base station for the reliable call handoff to target cell [ col. 1, lines 15-31]. Therefore, it

Art Unit: 2685

would have been obvious to one of ordinary skill in the art at the time of invention to modify Sayers with Vaara's MPCL cell candidate list for handoff call, in order to reliably handing off the telephone call.

Regarding **claim 2**, Sayers teaches gatekeeper 41 is the common control for gateways 42-1/42-G (as shown in Fig. 2, 4). Regarding the packet generated by said gatekeeper is addressed to one of said gateways in said zone, Sayers has shown above the gatekeeper (P-BTS 27) generates packet to public network 8, via gateway 42-1/42-G (col. 10, lines 19-24). Sayers teaches the packet interface layer for formatting an external control message which has alias identifier, intended for transmission across the packet network (in col. 25, col. 56-67).

Regarding **claim 3**, Sayers teaches an interface for connection to an external, public, network which includes an external controller (the external formed by gateway 421/42-6, P-BTS 27, hub 23, and router 33, as shown in Fig. 2), for the packet generated by gatekeeper is addressed to said controller (as shown above, in claim 2, col. 25, lines 56-67). In Fig. 1, Sayer teaches the external controller BSC 16, for private networks.

Regarding **claim 8**, Sayers teaches a method of effecting handoff of a call in which at least on mobile station is engaged in a cellular communication network comprising plurality of cells (a cellular communication network in col. 7, lines 17-26; a wireless GSM system has private and public network, integrated wireless system, in Fig. 1-4 and Fig, 15; plurality of cells 11, 11', 11'-1, 11'-2 in Fig. 1; gateways 42-1 to 42-G, in Fig. 2, Fig. 4; and in col. 9, lines 42-45), the method comprising receiving from mobile station a handoff required indication indicating that handover is needed from a source gateway to target P-BTS (the handoff between private PBX 43 and public network PSTN 26, Fig. 4, abstract; the handover method in Fig. 14, having handover Req, for handing over from old P-BTS to new P\_BTS;

Art Unit: 2685

the gateway receives non-standard message for handover, and gateway converts the non-standard message into appropriate handover message for public network in col. 23, lines 62-67; the means for forwarding a generated handover message from the packet network interface as a nonstandard packet network message indicating a handover request, col. 27, lines 62-67; the handover in the wireless packet IP call for public GSM and private networks, abstract; the intra-private network handover, inter-private network handover, the handover between private and public network in col. 23, lines 6-16), formulating at the source gateway a packet address to the source gatekeeper, said packet including control information comprising candidate list identifying possible alternative gateway (the call control message from serving P-BTS to target P-BTS, having handover information indicating P-BTS identifier and called party number, for possibly call transfer in col. 27, lines 50-61; using BTS ID for handover in col. 23, lines 43-50; the candidate calculation performed at P-BTS in col. 23, lines 18-42, the gatekeeper function is performed by P-BTS for the call transferring in col. 16-18), the gatekeeper including means for generating a packet for sending handover request for handing over the call to one of the handover candidate cell, alternative cells (the P-BTS gatekeeper passing a handover request to packet data interface, and generating handover location request, col. 27, lines 50-67). Sayers fails to teach the target controller in handover. Vaara teaches the controller, the target controller [ the target MSC-controller receives candidate list MPCL from another network such as intelligent network IN (col. 6, lines 64-67, col. 7, lines 18-20; the handover call set up for mobile station ( Fig. 1, Fig. 3, abstract, col. 1, lines 9-31; col. 5, lines 30-41). The controller MSC is connected to the base stations BSS1, BSS2 (Fig. 3). During the handoff, the MSC, as the claimed controller, to transmit the mobile priority cell list MPCL candidates to base station controller BSC-unit, as the claimed gatekeeper (col. 6, line 57 to col. 7, line 25; col. 12, lines 47-50), the MSC

transmits MPCL to BSC-unit-gatekeeper and BSC-unit-gatekeeper selects a cell for handing off a call in col. 9, line to col. 10, line 6; the BSC-unit-gatekeeper selects target cell for handover; the transmitted packet messages in the GSM system in col. 1, line 64 to col. 3, line 36, having the 20ms packet frames in the time slots], based on the measurement result reported from base station for the reliable call handoff to target cell [ col. 1, lines 15-31].

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Sayers with Vaara's MPCL cell candidate list for handoff call, in order to reliably handing off the telephone call.

Regarding **claim 9**, Sayers has taught above in claim 2 the method for the same zone (inter private network handover), and the packet generated by source gatekeeper P-BTS addressing to target gatekeeper P-BTS.

Regarding **claim 10**, Sayers has taught above in claim 3 the method for the handover to be effected to an external network, between private and public network ( col. 25, lines 44-67). Referring to Sayers' base station controller BSC 16 in Fig. 1 and col.25, lines 47-48, for the external controller for interfacing to external network.

Regarding **claim 12**, Sayers has taught above in claim 7 the method for source gatekeeper P-BTS 27 is an anchor gatekeeper, and all the handover request are routed though that anchor gatekeeper P-BTS.

Regarding **claim 13**, Sayers has taught above the method for the candidate list having the local area codes by using IP address his claim 11 above, and the cell identifiers (alias identifier, P-BTS identity, from Sayers.

Regarding **claim 14**, Sayers has taught above in claim 3 the handover, the external network handover above in between private and public network, and the gatekeeper, P-BTS, is arranged to receive a control message packet from an interface unit (BSC 16 in Fig. 1;



Art Unit: 2685

gateway 42-1/42-G in Fig. 4, in Sayers) from external network. Besides, Thomas also teaches the call forwarding in between network domain 12 and network domain 10 for the roaming user to visited gatekeeper (Fig. 1, abstract).

Regarding **claim 15**, Sayers teaches a cellular communication network [ a wireless GSM system having integrated public and private network, col. 7, lines 17-26, Fig. 1-4, Fig. 15], comprising means for generating a handover required indication for a call is engaged [ the means for forwarding a generated handover message from the packet network interface as a nonstandard packet network message indicating a handover request, col. 27, lines 62-67], and packet generating means for generating a packet to P-BTS [ the generated call control message from serving P-BTS to target P-BTS, having handover information indicating P-BTS identifier and called party number, for possibly call transfer in col. 27, lines 50-61; using BTS ID for handover in col. 23, lines 43-50; the candidate calculation performed at P-BTS in col. 23, lines 18-42; the generating handover location request, col. 27, lines 50-67]. Sayers fails to teach the controller for addressing, sending, a packet to a gatekeeper and being configured to include in the packet a candidate list of alternative cells to which the call could possibly be transferred. However, Vaara teaches these features [ the handover call set up for mobile station ( Fig. 1, Fig. 3, abstract, col. 1, lines 9-31; col. 5, lines 30-41), the controller MSC is connected to the base stations BSS1, BSS2 (Fig. 3). During the call handoff, the MSC, as the claimed controller, to transmit, address, the mobile priority cell list MPCL candidates to base station controller BSC-unit, as the claimed gatekeeper (col. 6, line 57 to col. 7, line 25; col. 12, lines 47-50), the MSC transmits MPCL to BSC-unit-gatekeeper and BSC-unit-gatekeeper selects a cell for handing off a call in col. 9, line to col. 10, line 6; the BSC-unit-gatekeeper selects target cell for handover; the transmitted packet messages in the GSM system in col. 1, line 64 to col. 3, line 36, having the 20ms packet frames in the

Art Unit: 2685

time slots ], based on the measurement result reported from base station for the reliable call handoff to target cell [ col. 1, lines 15-31]. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Sayers with Vaara's MPCL cell candidate list for handoff call, in order to reliably handing off the telephone call.

3. Claims 4, 6-7, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sayers in view of Vaara, as applied to claim 1 above, and further in view of Thomas et al. (US 6,421,339 B1).

Regarding **claim 4**, Sayers, Vaara fail to teach the data defining network specific resource is held at each gateway. However, Thomas et al. (Thomas) teaches in Fig. 1, the data defining network specific resources is held at each gateway, such as gateway 26 is defined for ISDN network, gateway 24 is defined for ATM network, and gateway 22 is defined for PSTN network. Thomas teaches gatekeeper 44 (Fig. 1), which is connected, via packet data network 30, R/GW 34/28 (Fig. 1, col. 3, lines 6-10), to gateways 24, 32, 26 for forwarding a call (title, abstract), the home gatekeeper authorizes roaming user with address and transient identity for call connection to other visited network (abstract; col. 6, line 60 to col. 7, line 45). Thomas teaches at least one gatekeeper 14 or 44 (Fig. 1), for call forwarding (title, abstract, figure in cover page). Thomas provides a technique to allow home gatekeeper to authorize the transient identity and address, such that the remote call can be efficiently connected, without traveling to the remote site (col. 2, lines 22-35). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Sayers and Vaara with Thomas's gateway, home gatekeeper for authorizing transient identity and address, such that the remote call can be connected efficiently, without the traveling to the remote site.

Art Unit: 2685

Regarding **claim 6**, Thomas teaches the plurality of gatekeepers each controlling a set of gateway (Fig. 1), for the defining individual network zone for PSTN, ISDN, ATM. Referring to Sayers above for the handover, and the generating of packet at gatekeeper (serving P-BTS) for addressing to at least one other gatekeeper (target P-BTS) .

Regarding **claim 7**, Sayers teaches the anchor gatekeeper through which all handoff request are routed (in col. 11, lines 4-18, the gatekeeper provides functions for accessing to network, translation of called numbers, routing calls).

Regarding **claim 11**, Thomas taught above in claim 6 the method for the packet generated by the source gatekeeper P-BTS is addressed to target gatekeeper having the identity of the target gatekeeper P-BTS.

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sayers in view of Vaara, Thomas, as applied to claim 1 above; and further in view of Hannula et al. (US 6,366,893 B2).

Regarding **claim 5**, Sayers, Vaara and Thomas fail to teach the data defining network specific resources defines a GSM specific end system information. However, Hannula et al. (also as Hannula in below) teaches the service gateway 10 has conversion 152 (Fig. 4) for interfacing to various payment protocols (abstract, figure in cover page, Fig. 1, Fig. 5-6), for the payment transactions. Hannula's system is for Pan European digital GSM system, as shown in col. 6, line 65 to col. 7, line 3). Hannula teaches the service gateway 10 is arranged to perform the protocol conversion between the first payment interface and at least one further payment protocol interface (col. 8, line 66 to col. 9, line 2; col. 9, lines 61-64). Hannula's gateway protocol conversion can immediately provide the protocol interface conversion to many different protocols, such that the system can interface to different

Art Unit: 2685

protocols with low cost (col. 1, line 42 to col. 2, line 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Sayers above, and to include Hannula's gateway protocol conversion to many different protocols, such that the system can interface to different protocols with low cost.

### ***Response to Arguments***

- 5 Applicant's arguments with respect to claims 1-16 have been considered but are moot in view of the new ground(s) of rejection.

Applicant has amended claims to replace gateway with controller, add new claims 15-16, for this case having foreign benefit dated 2/22/1999. Applicant then argued for the on teachings for the controller generating packet having handover candidate cell list to gatekeeper, and gatekeeper select an alternative cell for handing over call (pages 10-12 of applicant's amendment), the ground of rejection has been changed by utilizing **Vaara (US 6,400,951 B1)**. Vaara teaches the above claimed features [ the handover call set up for mobile station ( Fig. 1, Fig. 3, abstract, col. 1, lines 9-31; col. 5, lines 30-41). The controller MSC is connected to the base stations BSS1, BSS2 (Fig. 3). During the handoff, the MSC, as the claimed controller, to transmit the mobile priority cell list MPCL candidates to base station controller BSC-unit, as the claimed gatekeeper (col. 6, line 57 to col. 7, line 25; col. 12, lines 47-50), the MSC transmits MPCL to BSC-unit-gatekeeper and BSC-unit-gatekeeper selects a cell for handing off a call in col. 9, line to col. 10, line 6; the BSC-unit-gatekeeper selects target cell for handover; the transmitted packet messages in the GSM system in col. 1, line 64 to col. 3, line 36, having the 20ms packet frames in the time slots; the MSC-controller receives candidate list from another network such as intelligent network IN (col. 5, lines 64-67, col. 7, lines 18-20].

Art Unit: 2685

**Conclusion**


- 6 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Chow whose telephone number is (571) 272-7889. The examiner can normally be reached on 8:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Charles Chow C.C.

June 17, 2005.

  
EDWARD F. URBAN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600